

REMARKS

The Office Action dated December 14, 2004 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 11 and 32 have been amended. No new matter has been added, and no new issues are raised which require further consideration and/or search. Claims 6-10, 13, 14, 19-26, 33-36, 38 and 40-45 have been withdrawn. Claims 1-5, 11, 12 15-18, 27-32, 37 and 39 are submitted for consideration.

The Abstract is objected to because the words of lines 5 and 6 are separated by large spaces. The Abstract has been amended to overcome this objection. Therefore, Applicants request that this objection be withdrawn.

Claim 32 was objected to because of informalities. Claim 32 has been amended to overcome this objection. Therefore, Applicants request that this objection be withdrawn.

Claims 11 and 12 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite. Claim 11 has been amended to overcome this rejection. Therefore, Applicants request that this rejection be withdrawn.

As a preliminary matter, Applicants wish to thank the Examiner for indicating the allowability of claims 3, 4, 11-12 and 27-31. Based on the arguments presented below, Applicants submit that each of claims 3, 4, 11-12 and 27-31 is allowable in its present form.

Claims 1, 2, 5, 15, 16, 18, 32, 37 and 39 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,123,883 to Fukaya. The rejection is traversed as

being based on a reference that neither teaches nor suggests the novel combination of features clearly recited in independent claim 1.

Claim 1, upon which claims 2-5, 11, 12 15-18, 27-32, 37 and 39 depend, recites a power transmission device which includes an input shaft and an output shaft. The device also includes a plurality of internally meshing planetary gear mechanisms, each including an external gear and an internal gear having external teeth and internal teeth a difference in a number of teeth between which is slight. At least two of the plurality of internally meshing planetary gear mechanisms are disposed in parallel on a path of power transmission and are different from each other in power transmission characteristics.

As will be discussed below, the cited prior art reference of Fukaya fails to disclose or suggest the elements of any of the presently pending claims.

Fukaya relates to an internal meshing type planetary gear changing device made of plastic material. The device has a gear mechanism in which contacts between inner pins and inner pin-holes are smooth and do not interfere with transmission of a torque, with backlashes of the gear mechanism being kept small. In Fukaya, only the inner pins which serve to transmit a torque are brought into contact with inner-pin holes at a predetermined range of contacting location so as to prevent unnecessary contacts between inner pins and inner-pin holes at other locations where no torques is transmitted.

Specifically, Fukaya teaches a planetary gear changing device with an input shaft and an output shaft. Col. 4, lines 31-33 and Figures 1 and 6. The planetary gear changing device includes a multistage planetary gear reducer of the internal meshing type which includes an input shaft, a first external gear and a first internal gear. The input shaft is

integrally formed with a disk-like eccentric member. The first external gear is fitted on the eccentric member. The first external gear includes external teeth of trochoidal profile and a plurality of integrally-formed inner pins. A first internal gear includes gear teeth of a circular arc profile which internally mesh with the external teeth of the first external gear. Col. 6, line 29-Col. 7, line 16.

Applicants submit that Fukaya simply does not teach or suggest each of the elements clearly recited in claim 1. Claim 1 recites, in part, that at least two of the plurality of internally meshing planetary gear mechanisms are disposed in parallel on a path of power transmission and are different from each other in power transmission characteristics. Page 5, lines 1-4 of the present invention states that “the phrase “disposed in parallel on a power transmission path” means that a plurality of power-transmissible routes through which power can be transmitted exist between shared members (same members).” According to page 5, lines 4-6 of the present invention, a plurality of completely independent routes do not necessarily need to exist between the input shaft and the output shaft. Thus, page 5, lines 6-9 of the present invention states that “in this connection, the phrase “disposed in series on a power transmission path” means that power is transmitted through a route and, after that, is transmitted through another route.” Page 5, lines 10-14 of the present invention further states that the number of routes disposed in parallel may be three or more and if a design is made to create a difference in power transmission characteristics between at least two of the three or more routes, this is included in the scope of the present invention. Based on the information described above from the present invention, Applicants submit that Fukaya teaches and

shows that two mechanisms are disposed in series on a power transmission path. In the present invention, on the other hand, at least two of the plurality of mechanism must be disposed in parallel on the power transmission path. Therefore, Applicants respectfully assert that the rejection under 35 U.S.C. §102(b) should be withdrawn because Fukaya simply fails to teach or suggest each of the features of claim 1 and hence dependent claims 2, 5, 15, 16, 18, 32, 37 and 39 thereon.

Claims 1, 2, 5, 15, 16-18, 32, 37 and 39 were also rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,651,747 to Minegishi. The rejection is traversed as being based on references that neither teach nor suggest the novel combination of features clearly recited in independent claim 1.

As will be discussed below, the cited prior art reference of Minegishi fails to disclose or suggest the elements of any of the presently pending claims.

Minegishi discloses a device which includes a plurality of internally meshing planetary gear mechanisms that are disposed in parallel to increase transmission capacity, which is well known. Specifically Minegishi teaches that reduction gears of a geared motor adopt a planetary changing mechanism which includes an input shaft, external gears, output shaft and internal gears. Col. 15, line 27- Col 15, line 37 and Figures 8 and 9.

Applicants submit that Minegishi simply does not teach or suggest each of the elements of claim 1. As noted above, claim 1, in part, recites that at least two of the plurality of internally meshing planetary gear mechanisms are disposed in parallel on a path of power transmission and are different from each other in power transmission

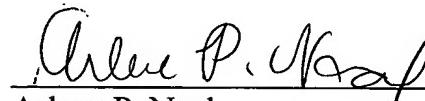
characteristics. The Office Action states that Minegishi teaches a plurality of planetary mechanism being parallel to each other and having different transmission power characteristics wherein the speed of the second mechanism is slower than the speed of the first mechanism (speed of second is lowered again after speed of the first is lowered). Applicants submit that this statement in the Office Action is a misunderstanding of the device in Minegishi where the mechanisms are disposed in series. Applicants submit that in the device in Minegishi, both the first and second mechanisms are disposed between the same input shaft 510 and the same inner pin(s) 514. Namely, both the first and second mechanisms are in parallel between the input shaft 510 and the inner pin(s) 514. Therefore, both the first and second mechanisms must rotate at the same speed. Applicants respectfully submit that the assertion in the Office Action that the speed of the second mechanism is slower than the speed of the first mechanism is incorrect. Furthermore, unlike the device recited in claim 1, it is important that both the first and second mechanisms are identical in power transmission characteristics in the device in Minegishi. Therefore, Applicants respectfully assert that the rejection under 35 U.S.C. §102(b) should be withdrawn because Minegishi simply fails to teach or suggest each of the features of claim 1 and hence dependent claims 2, 5, 15, 16-18, 32, 37 and 39 thereon.

As noted previously, claims 1-5, 11, 12 15-18, 27-32, 37 and 39 recite subject matter which is neither disclosed nor suggested in the prior art references cited in the Office Action. It is therefore respectfully requested that all of claims 1-5, 11, 12 15-18, 27-32, 37 and 39 be allowed and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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Enclosures: Petition for Extension of Time